UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/715,898	11/17/2000	Boyce D. Burts JR.	23267/19C2	5603

7590 03/28/2002

J.M. (MARK) GILBRETH
GILBRETH AND ASSOCIATES PC
PO BOX 2428
BELLAIRE, TX 77402-2428

EXAMINER	
CROSS, LATOYA I	

ART UNIT	PAPER NUMBER
1743	8

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/715,898	BURTS, BOYCE D.	
	Examiner	Art Unit	
	LaToya I. Cross	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 24-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 24-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 7, 24, 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,989,673 to Sydansk (hereinafter referred to as Sydansk '673) in view of U.S. Patent 4,566,979 to Githens (hereinafter Githens '979).

Sydansk '673 teaches a cross linked gel which functions as a lost circulation fluid by coating and plugging the wellbore face to prevent flow of fluids across a face (col. 7, lines 6-8). The cross linked gel comprises a water-soluble polymer and a cross linking agent. See abstract. The water-soluble polymer is a carboxylate-containing polymer having one or more carboxylate groups (col. 3, lines 24-36). A preferred water-soluble polymer of Sydansk '673 is partially hydrolyzed polyacrylamide, such as recited in instant claim 7 (col. 3, lines 37-54). The cross linking agent is a chromic carboxylate complex, such as recited in instant claim 2 (col. 3, lines 55-64). Sydansk '673 also teaches the additional use of inert solids, such as sand,

fiberglass, cellulosic fibers, and plastic fibers to enhance the strength of the gel formed by the polymers and cross linking agents (col. 6, lines 57-61).

Sydansk '673 differ from the instantly claimed invention in that Sydansk does not appear to teach a dry mixture of water soluble crosslinkable polymer, crosslinking agent, and reinforcing material.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one or ordinary skill in the art to use a dry mixture of the components of Sydansk '673 to provide better storage stability for the components.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious, within the meaning of 35 U.S.C. 103, in view of the teachings of Sydansk '673 and Githens '979.

Claims 1-4, 7, 24-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,377,760 to Merrill (herein referred to as Merrill '760) in view of Githens '979.

Merrill '760 discloses gels capable of blocking or plugging relatively large openings in permeable formations. The gels of Merrill '760 are also useful in improving the conformance of formations encountered in the drilling and production of hydrocarbons from subterranean wells

(col. 1, lines 12-16). The gels of Merrill '760 comprise a partially hydrolyzed carboxylate-containing polymer and a chromic carboxylate complex as a cross-linking agent, such as recited in instant claim 2. The preferred hydrolyzed polymer is a partially hydrolyzed polyacrylamide polymer, such as recited in instant claim 7 (col. 2, lines 63-68). Merrill '760 also discloses the use of reinforcing materials that are incorporated into the gels. These reinforcing materials include hydrophilic fibers and hydrophobic fibers. The hydrophilic fibers are those such as glass, cellulose, carbon, silicon, graphite, coke, cotton fibers, and mixtures. The hydrophobic fibers are those such as nylon, rayon, hydrocarbon fibers, and mixtures, such as recited in instant claim 3 (col. 4, lines 14-25).

Merrill '760 differs from the instantly claimed invention in that there is no specific teaching to the combined use of both hydrophilic and hydrophobic reinforcing materials.

However, since both of the reinforcing materials are disclosed as being used for the same purpose of enhancing the gels formed from the hydrolyzed polymers and cross linking agents, it would have been obvious to one of ordinary skill in the art to combine the two types of reinforcing materials. Absent evidence to the contrary, the use of both types of reinforcing materials (hydrophilic and hydrophobic) would result in an effective additive for use as a lost circulation additive.

Merrill '760 also differs in that there is no disclosure of a dry mixture of components.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one or ordinary skill in the art to use a dry mixture of the components of Merrill '760 to provide better storage stability for the components.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious within the meaning of 35 U.S.C. 103, in view of the teachings of Merrill '760 and Githens '979.

Claims 1, 2, 5-13, 24, 25 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,004,553 to House et al (herein referred to as House et al '553) in view of U.S. Patent 3,208,524 to Horner et al (herein referred to as Horner et al '524) and Githens '979.

Applicants claimed invention is directed to a lost circulation additive comprising a dry mixture of a water soluble cross-linkable polymer, a cross linking agent, and a reinforcing material selected from fibers and comminuted plant material.

House et al '553 disclose seepage loss fluids for well working applications. The fluids of House et al '553 comprise a combination of reinforcing materials such as oat hulls, corncobs, cotton, citrus pulp, and cotton burrs. House et al '553 also disclose the conventional use of particulates of peanuts, almond, cocoa bean, cottonseed, rice, cotton linters, wool, paper, straw, wood fibers, etc. (col. 2, lines 7-27). House et al '553 disclose the use of the reinforcing particulate material in combination with a crosslinkable polymer (col. 5, lines 1-5). House et al '553 discloses suitable crosslinkable polymer as those described in U.S. Patent 4,722,397 to Sydansk (col. 20-38). The crosslinkable polymers of Sydansk '397 comprise a water-soluble carboxylate containing polymer and a cross linking agent such as chromic carboxylate

complex, such as instantly claimed by Applicants. (See abstract of Sydansk '397.) The use of the cross-linkable polymer in combination with the reinforcing particulate materials forms a plugging agent for boreholes (col. 5, lines 1-9). House et al '553 further disclose the preparation of the fluids by adding the seepage loss additives to water based well working fluids (col. 5, lines 39-68 and col. 6, lines 1-25).

House et al '553 differ from the instantly claimed invention in that there is no disclosure of the use of cellophane in the seepage loss additives. There is also no disclosure of the use of the fluids of House et al '553 as conformance additives.

Horner et al '524 teach loss circulation fluids similar to those disclosed by House et al '553 in that they comprise crosslinkable polymers. Horner et al '524 teach the employment of bulking agents into the polymer gels to reduce the amount of gel required and to permit the plugging of large fissures which might otherwise be difficult to plug (col. 5, lines 42-48). As bulking agents, Horner et al '524 discloses cellophane and a variety of other fibrous, flaky or granular materials.

Thus, in view of the teaching of the use of cellophane in combination with other fibrous, flaky or granular materials in loss circulation additives for well working fluids, it would have been obvious to one of ordinary skill in the art to employ cellophane as an additional component of the loss circulation additive of House et al '553. One of ordinary skill in the art would expect that the addition of cellophane to the fluids of House et al '553 would result in a loss circulation additive similar to that instantly claimed by Applicants, absent evidence to the contrary.

With respect to House et al '553 not teaching the use of those fluids as conformance additives, it is known in the art that fluids such as those disclosed by House et al '553 are useful in improving conformance.

Also, neither House et al '553 or Horner et al '524 disclose the use of a dry mixture of components.

Githens '979 teach a dry mixture of a crosslinking compound and a hydratable gelling agent, wherein the dry mixture can be activated by the addition of water. Githens '979 teach crosslinking compounds gelling agents similar to those used by Applicants. Githens '979 further teach that the use of dry mixture of components provides good storage stability for at least three months.

Thus, in view of the teachings of Githens '979 it would have been obvious to one or ordinary skill in the art to use a dry mixture of the components of House et al '553 and Horner et al '524 to provide better storage stability for the components.

Therefore, for the reasons set forth above, Applicants' instantly claimed invention is deemed to be obvious within the meaning of 35 U.S.C. 103, in view of the teachings of House et al '553 and in view of Horner et al '524 and Githens '979.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 703-305-7360. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 703-308-4037. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

LIC
March 23, 2002

JAN LUDLOW
PRIMARY EXAMINER